

LIST OF CURRENT CLAIMS

1. (Currently Amended) Architecture for the centralised control of events occurring in correspondence with remote peripheral electronic devices, comprising:

- at least one electronic central device (111), said electronic central device including a processing unit or CPU (123), a transmitting unit (115), a receiving unit (117) and a power supply unit (114);
- at least a device (121) for generating a network timing signal;
- at least one electronic peripheral device (11a, 11b, ...11n), said peripheral device being provided with a processing unit or CPU (23), a storage unit (25), a transmitting unit (15), a receiving unit (17), a device (21) for generating a local timing signal, a battery (13) and means for periodically interrupting and activating the electronic power supply to this transmitting and/or receiving unit,
wherein said at least one peripheral device (11a, 11b, ...11n) is programmable by means of a flow of data autonomously output from said central device and received by said at least one peripheral device;

wherein said peripheral device (11a, 11b, ... 11n) is configured to switch over said transmitting and receiving units according to the following machine states:

- = “sleeping state,” wherein the transmitting and receiving units are not supplied with power;
- = “passive state,” wherein the receiving unit is supplied with power and the transmitting unit is not supplied with power;
- = “active state,” wherein both the transmitting and receiving units are supplied with power, and

wherein said peripheral device comprises means for imposing to said peripheral device a “sync state” where a clock of said peripheral device synchronises by means of a synchronization protocol with said network timing device, when the peripheral device has not received confirmation of the correct reception of transmitted data to the central device, said lack of confirmation being an indication of lack of synchrony with the central device.

2. (Previously Presented) Architecture according to claim 1, wherein means are provided for enabling the autonomous transfer to said peripheral device from said central device (111) of a flow of information which is received by said receiving unit (17) in said peripheral device (11a, 11b,...11n), said means for enabling the autonomous transfer of a flow of information including a synchronisation loop of turn-on and turn-off slots of the transmitting/receiving units (15, 17) of said peripheral device with respect to the network timing signal and a data transfer loop from said central device (111) to said peripheral device (11a, 11b,...11n).

3. (Cancelled)

4. (Currently Amended) Architecture according to claim [[3]] 2, wherein said central device (111) and/or said peripheral device (11a, 11b,...11n) periodically switches from the “sleeping state” to the “passive state”, the frequency of said switching being determined by a local timing signal and the time length of said “passive state” being determined by said local timing signal and by the reception of data flows by the receiving unit (17).

5. (Original) Architecture according to claim 4, wherein said central device and/or said peripheral device periodically switches from the “passive state” to the “active state” and vice versa, the frequency of said switching being determined by the occurrence of an event occurring in correspondence with said central and/or peripheral device and requiring to be transmitted.

6. (Previously Presented) Architecture according to claim 1, wherein said peripheral device is a wireless device and wherein said transmitting unit and said receiving unit are a transmitting radio unit and a receiving radio unit, respectively.

7. (Previously Presented) Architecture according to claim 1, wherein said supply unit of said central device and/or of said peripheral device includes a battery.

8. (Currently Amended) Architecture according to claim [[3]] 2, wherein said supply unit of said central device includes a power supply connected to a public or private electric power supply network.

9. (Previously Presented) Architecture according to claim 1, wherein said device for generating a network timing signal is integrated in said central device.

10. (Previously Presented) Architecture according to claim 1, wherein said peripheral device is a sensor of an anti-theft or anti-fire system and wherein said central device is the control unit of said system.

11. (Previously Presented) Architecture according to claim 6, wherein said receiving and transmitting radio units are caused to communicate to each other at varying frequencies belonging to a group of predetermined frequencies chosen according to a sequence which is predetermined and common to all devices, and wherein said synchronisation loop is carried out by utilising always the same recovery frequency (rf) from this group of frequencies.

12. (Currently Amended) Method for the centralised control, by means of at least one electronic central device provided with a processing unit or CPU (123), a transmitting unit (115), a receiving unit (117), a supply unit (114) and by means of a device (121) for generating a network timing signal, of events occurring in correspondence with remote peripheral electronic devices provided with a processing unit or CPU (23), a storage unit (25), a transmitting unit (15), a receiving unit (17), a device (21) for generating a local timing signal, a battery (13) and means for periodically interrupting and activating the ~~electronic~~ electric power supply to this transmitting and/or receiving unit, comprising programming during a phase said at least one peripheral device (11a, 11b,...11n) by means of a flow of data autonomously output from said central device and received by said peripheral device;

wherein said peripheral device (11a, 11b, ... 11n) is operable according to the following machine states:

- “sleeping state,” wherein the transmitting and receiving units are not supplied with power;
- “passive state,” wherein the receiving unit is supplied with power and the transmitting unit is not supplied with power;

- "active state," wherein both the transmitting and receiving units are supplied with power; and

wherein said method comprises the steps of:
imposing to said peripheral device a "sync state" where a clock of said peripheral device synchronises by means of a synchronization protocol with said network timing device; and

wherein said "sync state" is imposed when the peripheral device has not received confirmation of the correct reception of transmitted data to the central device, said lack of confirmation being an indication of lack of synchrony with the central device.

13. (Previously Presented) Method according to claim 12, wherein said peripheral device is programmed by means of a first phase of synchronisation of turn-on and turn-off slots of the radio units of said peripheral device with the network timing signal and a second phase during which the data are transferred from said central device to said peripheral device.

14. (Previously Presented) Method according to claim 13, wherein said synchronisation phase comprises sending, by the peripheral device which is out of synchrony, of a synchronisation request (REQ SYNC), said request being repeated till the reception, by said peripheral device, of an answer (SYNC) emitted by the network timing device.

15. (Previously Presented) Method according to claim 13, wherein said synchronisation phase comprises sending, by the peripheral device which is out of

synchrony, of a synchronisation request (REQ SYNC), said request being always repeated at the same recovery frequency (rf), chosen from a group of frequencies (f_1, f_2, \dots, f_n) at which said peripheral devices and said central device operate for the data transmission and reception.

16. (Cancelled)

17. (Currently Amended) Method according to claim [[16]] 14, wherein said data flow (DATA) for the programming of said peripheral device is transmitted by said central device when said peripheral device is in “passive state”, said peripheral device moving to “active state” at the end of the reception of said data flow, thereby enabling transmittal of a confirmation string (ACK) to said central device.

18. (Previously Presented) Method according to claim 12, wherein the transmission protocol from the peripheral devices to the central device and vice versa is of the CSMA (Carrier Sense Multiple Access) type and includes at least a “Header” field, containing the information about the structure of the string itself, a field containing the source and destination addresses, a field containing the string length, a field containing the data and a control field (CRC).

19. (Original) Method according to claim 18, wherein said transmission protocol further includes at least an auxiliary control field, a variant field and an auto-correction field.

20. (Original) Method according to claim 19, wherein said auto-correction field is coded according to the Reed-Solomon code.

21. (Previously Presented) Method according to claim 18, wherein at least one of said fields is ciphered by means of a symmetric algorithm.

22. (New) Method according to claim 12, wherein said synchronization protocol comprises the steps of:

- switching said peripheral device to said “active state;”
- repeatedly sending a synchronization request (REQ_SYNC) alternating “active states” and “passive states” till the central device is able to intercept said request;
- once it has received the request (REQ_SYNC), switching said central device to the “active state” and sending a synchronization string (SYNC) to the peripheral device that has sent the request;
- receiving said synchronization string (SYNC) in said peripheral device;
- synchronizing the clock of said peripheral device with the one of the central device.

23. (New) Method according to claim 22, wherein once the central device has received a data string, it switches to the “active state” and sends a confirmation string ACK to the peripheral device and wherein said string ACK contains also the information of synchronization (SYNC), so that the correct synchronization of the peripheral device with the network time base (121) is maintained.

24. (New) Method according to claim 23, wherein the time window during which the central device is in “passive state” and, consequently, is able to listen to the peripheral device is opened at regular intervals and has a length which is dynamically variable depending on the amount of received data.